



**MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
RADIATION CONTROL PROGRAM**

**REGULATORY GUIDE NO. 2.0
Revision 0.0
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**GUIDE FOR THE PREPARATION OF APPLICATIONS FOR
LEAD PAINT DETECTORS WITH NARM SEALED SOURCES**

Massachusetts Department of Public Health
Radiation Control Program
90 Washington Street
Dorchester, MA 02121

**MASSACHUSETTS RADIATION CONTROL PROGRAM
REGULATORY GUIDE
LEAD PAINT DETECTORS WITH NARM SEALED SOURCES**

1.1 INTRODUCTION

This guide describes the type and extent of information required by this Radiation Control Program (Agency) to evaluate a license application for the possession and use of radioactive content of certain devices which detect and analyze the lead content of paint on surfaces. In general, licensing of devices containing less than 15 millicurie of Cobalt-57 or Cadmium-109 will be approved forthwith, though special license conditions may be imposed otherwise. Multiple devices may be licensed to the same organization in consideration of fees increments and increased administrative controls.

1.2 APPLICABLE RULES

In addition to 105 CMR 120.100, other regulations pertaining to Possession and use of portable lead paint detectors are subject to the following regulations.

- ! 105 CMR 120.001, General Provisions;
- ! 105 CMR 120.200, Standards for Protection Against Radiation describes radiation safety limits;
- ! 105 CMR 120.750, Notices, Instructions, and Reports to Workers: Inspection describes training information;
- ! 105 CMR 120.770, Packaging and Transportation of Radioactive Material describes limits for transporting materials; and
- ! 105 CMR 120.890, Low-level radioactive waste minimization regulation general provisions.
- ! 40CFR172 and 173 (Department of Transportation)

1.3 LICENSE FEES

This license for possession and use of these devices is subject to an annual fee as determined by the executive office for Administration and Finance. The fee is twenty dollars per device annually, made payable in a check to the Commonwealth of Massachusetts.

1.4. FILING THE APPLICATION

A specific license application for the use of sealed radioactive sources contained in X-ray fluorescence analyzers should be submitted on form MRCP 120.100-5(enclosed). All items on the application form must be completed in sufficient detail for the agency staff to determine if the applicant's equipment,

facilities, and radiation protection program are adequate to protect health and minimize danger to life and property. The application must be approved and a validated copy of the license must be in the hands of the applicant before possession of the first device may be taken. Additional units taken into possession at a later time are reported at the time they are acquired. The serial number of the source is not required. Information from various sources is coordinated in the agency database, so it is necessary to record device serial numbers accurately.

Since the space provided on form MRCP 120.100-5 is limited, separate 8.5 by 11 inch sheets of paper may be appended for Items 7 through 7 listed on the form. Each separate sheet should contain the item number and the application date in the lower right corner.

The application should be completed in triplicate. The original and one copy of the application, along with duplicate copies of supporting documents, must be mailed to: Industrial Licensing, Radiation Control Program, 90 Washington Street, Dorchester, MA 02121.

1.5 CONTENTS OF THE APPLICATION

Item 1 Applicant's Name and Mailing Address

The "applicant" is the organization or person legally responsible for possession and use of the radioactive materials specified in the application. Individuals should be designated as the applicant only if they are acting in a private capacity and the use of radioactive material is not connected with their employment with a corporation or other legal entity. Enter the name, mailing address and telephone number (including area code) of the applicant in the space provided on form MRCP 120.100-5.

Item 2 Radiation Safety Officer

For licenses listing a single user, the user is the Radiation Safety Officer. For multiple users a specific radiation safety officer should be appointed. The duties of the radiation safety officer include (1) keeping the license up to date, (2) limiting use to authorized users (2) ensuring adequate physical security, (3) functioning in emergencies by rendering assistance and informing authorities as appropriate, (4) managing the conduct of leak tests and source replacement, (5) keeping the log of field use and other required records.

Items 3 Name and qualification of additional users

List individuals, which in addition to the radiation safety officer will be involved in using the device. Attendance of vendor course including safety considerations as well as use of the device will satisfy the user training requirement for single user operations. The Radiation Safety Officer for a multiple

user operation is expected to have completed the vendor course, to have some science training, and to have had at least six

months in service as user of the device. In some instances, training obtained or supplemented through attendance of courses offered by agencies other than vendors may be considered at license review.

Item 4 Description of the device

Submit a detailed description of the x-ray Florescence device for which a license is desired. This description should at least include the items listed in the table.

Item 5 Self explanatory

Item 6 Physical Security:

The application should describe how every device will be maintained secure during (1) Storage, (2) transportation, and (3) site use. Special problems may arise for devices stored in residences where children may live or be present so storage security in such instances should be thoroughly evaluated in the application. In general, commitment to lock the devices in immobile steel enclosures, or lock boxes or trunks integral with vehicles, will be interpreted during license review to adequately fulfill storage requirements.

Following considerations should be made.

1. Physical security of device(s) during storage, use, and transportation.
2. Performance of semiannual leak tests or source replacement.
3. Immediate reports to licensing agencies of loss or theft.
4. Uses according to manufacturer instructions and training.

Administrative requirements:

1. Maintain logs of field use.
2. Secure training for each user.
3. Keep records of training, leak tests, source replacements.
4. User servicing of devices is prohibited.
5. Return to the vendor of devices no longer in use for source removal.
6. Devices may not be transferred to un licensed recipients.
7. Report of changes of address or Radiation Safety Officer assignment.

Item 7 Emergency Procedures:

Submit a copy of the written emergency procedures to be followed in the event of loss or theft, or in case of an accident involving damage to the device(s) containing radioactive material. The instructions should:

1. Describe the immediate action to taken in order to prevent possible contamination/radiation exposure to Personnel.
2. Include the names and telephone numbers of the responsible individuals within the applicant's organization to be notified and who will, in turn, notify local police and the Radiation Control Program (617) 427-2913.

In addition, indicate where copies of these procedures will be maintained. There should be a copy posted near each device use or storage location.

Item 8 Certification

The application must be signed and dated by the applicant, if acting as an individual, or by an individual who is authorized by management to sign on behalf of a company. A statement signed by corporate management granting authority to sign license requests and related documents are required for applications not signed by an officer of the corporation. Unsigned applications will be returned for a proper signature.

CERTIFICATE - TERMINATION
DISPOSITION OF RADIOACTIVE MATERIAL

LICENSEE NAME: _____ LICENSE NUMBER: _____

ADDRESS: _____

The following information is provided in accordance with 105 CMR 120.132, "Expiration and Termination of Licenses." This regulation is attached to this form. Complete the items below which are applicable to your licensed activity:

___ 1. All use of radioactive materials authorized under the above referenced license has been terminated.

___ 2. Radioactive contamination has been removed to the level outlined in 105 CMR 120. 291 to the extent practicable.

___ 3. All radioactive material previously procured and/or possessed under the authorization granted by the above referenced license has been disposed of as follows:

___ Transferred to (Name and Address): _____

which is authorized to possess such material under License Number _____

issued by (Licensing Agency): _____

___ Decayed, surveyed and disposed of as non-radioactive trash.

___ Licensed under License Number: _____

issued by (Licensing Agency): _____

___ No radioactive material has ever been procured and/or possessed by the licensee under the authorization granted by the above referenced license.

___ Other (Attach additional pages).

___ 4. Attached are radiation surveys or the equivalent as specified in 105 CMR 120.132(I)(2).

___ 5. Additional remarks. (Attach additional pages).

THE UNDERSIGNED, ON BEHALF OF THE LICENSEE, HEREBY CERTIFIES THAT LICENSABLE QUANTITIES OF RADIOACTIVE MATERIAL UNDER THE JURISDICTION OF MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH RADIATION CONTROL PROGRAM ARE NOT POSSESSED BY THE LICENSEE. IT IS THEREFORE REQUESTED THAT THE ABOVE REFERENCED LICENSE BE TERMINATED.

DATE: _____ SIGNATURE: _____

TITLE: _____

120.132: Expiration and Termination of Licenses

(A) Each specific license expires at the end of the day on the expiration date stated in the license unless the licensee has filed an application for renewal under 105 CMR 120.133 not less than 30 days before the expiration date stated in the existing license. If an application for renewal has been filed at least 30 days prior to the expiration date stated in the existing license, the existing license expires at the end of the day on which the Agency makes a final determination to deny the renewal application or, if the determination states an expiration date, the expiration date stated in the determination.

(B) Each specific license revoked by the Agency expires at the end of the day on the date of the Agency's final determination to revoke the license, or on the expiration date stated in the determination, or as otherwise provided by Agency Order.

(C) Each specific license continues in effect, beyond the expiration date if necessary, with respect to possession of radioactive material until the Agency notifies the licensee in writing that the license is terminated. During this time, the licensee shall:

- (1) Limit actions involving radioactive material to those related to decommissioning; and,
- (2) Continue to control entry to restricted areas until they are suitable for release in accordance with Agency requirements.

(D) Within 60 days of the occurrence of any of the following, consistent with the administrative directions in 105 CMR 120.013, each licensee shall provide notification to the Agency in writing of such occurrence, and either begin decommissioning its site, or any separate building or outdoor area that contains residual radioactivity so that the building or outdoor area is suitable for release in accordance with Agency requirements, or submit within 12 months of notification a decommissioning plan, if required by 105 CMR 120.132(F)(1) and begin decommissioning upon approval of that plan if-

- (1) The license has expired pursuant to 105 CMR 120.132(A) or (B); or,
- (2) The licensee has decided to permanently cease principal activities, as defined in 105 CMR 120.132, at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with Agency requirements; or,
- (3) No principal activities under the license have been conducted for a period of 24 months; or,
- (4) No principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with Agency requirements.

(E) The Agency may grant a request to extend the time periods established in 105 CMR 120.132(D) if the Agency determines that this relief is not detrimental to the public health and safety and is otherwise in the public interest. The request must be submitted no later than 30 days before notification pursuant to 105 CMR 120.132(D). The schedule for decommissioning set forth in 105 CMR 120.132(D) may not commence until the Agency has made a determination on the request.

(F) (1) A decommissioning plan must be submitted if required by license condition or if the procedures and activities necessary to carry out decommissioning of the site or separate building or outdoor have not been previously approved by the Agency and these procedures could increase potential health and Safety impacts to workers or to the public, such as in any of the following cases:

- (a) procedures would involve techniques not applied routinely during cleanup or maintenance operations;
 - (b) workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;
 - (c) procedures could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or,
 - (d) procedures could result in significantly greater releases of radioactive material to the environment than those associated with operation.
- (2) The Agency may approve an alternate schedule for submittal of a decommissioning plan required pursuant to 105 CMR 120.132(D) if the Agency determines that the alternative schedule is necessary to the effective conduct of decommissioning operations and presents no undue risk from radiation to the public health and safety and is otherwise in the public interest.
- (3) Procedures such as those listed in 105 CMR 120.132(F)(1) with potential health and safety impacts may not be carried out prior to approval of the decommissioning plan.

120.132: continued

- (4) The proposed decommissioning plan for the site or separate building or outdoor area must include:
 - (a) a description of the conditions of the site or separate building or outdoor area sufficient to evaluate the acceptability of the plan;
 - (b) a description of planned decommissioning activities;
 - (c) a description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning;
 - (d) a description of the planned final radiation survey; and,
 - (e) an updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and a plan for assuring the availability of adequate funds for completion of decommissioning.
 - (f) For decommissioning plans calling for completion of decommissioning later than 24 months after plan approval, the plan shall include a justification for the delay based on the criteria in 105 CMR 120.132(H).
 - (5) The proposed decommissioning plan will be approved by the Agency if the information therein demonstrates that the decommissioning will be completed as soon as practicable and that the health and safety of workers and the public will be adequately protected.
- (G) (1) Except as provided in 105 CMR 120.132(B), licensees shall complete decommissioning of the site or separate building or outdoor area as soon as practicable but no later than 24 months following the initiation of decommissioning.
- (2) Except as provided in 105 CMR 120.132(H), when decommissioning involves the entire site, the licensee shall request license termination as soon as practicable but no later than 24 months following the initiation of decommissioning.
- (H) The Agency may approve a request for an alternative schedule for completion of decommissioning of the site or separate building or outdoor area, and license termination if appropriate, if the Agency determines that the alternative is warranted by consideration of the following:
- (1) whether it is technically feasible to complete decommissioning within the allotted 24-month period;
 - (2) whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period;
 - (3) whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;
 - (4) whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and,
 - (5) other site-specific factors which the Agency may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, ground-water treatment activities, monitored natural ground-water restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.
- (I) As the final step in decommissioning, the licensee shall-
- (1) Certify the disposition of all licensed material including accumulated wastes, by submitting a completed Agency Form MRCP 120.100-3 or equivalent information; and,
 - (2) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey unless the licensee demonstrates that the premises are suitable for release in some other manner. The licensee shall, as appropriate-
 - (a) Report levels of gamma radiation in units of millisieverts (microrentgen) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (disintegrations per minute or microcuries) per 100 square centimeters -removable and fixed - for surfaces, megabecquerels (microcuries) per milliliter for water, and becquerels (picocuries) per gram for solids such as soils or concrete; and,
 - (b) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.
- (J) Specific licenses, including expired licenses, will be terminated written notice to the licensee when the Agency determines that:
- (1) radioactive material has been properly disposed;
 - (2) reasonable effort has been made to eliminate residual radioactive contamination, if present; and,
 - (3) (a) a radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with Agency requirements; or,
 - (b) other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with Agency requirements.

APPLICATION FOR RADIOACTIVE MATERIAL LICENSE
NARM-BASED PORTABLE XRAY FLUORESCENCE ANALYZER FOR THE
DETECTION AND ANALYSIS OF LEAD IN PAINT ON SURFACES

MASSACHUSETTS RADIATION CONTROL PROGRAM
90 WASHINGTON STREET, DORCHESTER, MA 02121
617-427-2944 FAX 427-2925

INSTRUCTIONS: Complete all items in this application for a new license or renewal of an existing license. Use supplemental sheets where necessary. Prepare three copies of this application and of all attachments and supplements. Mail two copies to the address above and retain the third copy. Upon approval of this application, the applicant will receive a Massachusetts Radioactive Materials License issued in accordance with the general requirements of the Code of Massachusetts Regulations chapter 105 section 120: To Control the Radiation Hazards of Radioactive Material and of Machines Which Emit Ionizing Radiation.

1.A. NAME AND ADDRESS OF APPLICANT
(Institution, Firm, Individual
Owner, etc.)

1.B. STREET ADDRESS AT WHICH LICENSED DEVICES WILL
BE STORED.

2.A. RADIATION SAFETY OFFICER (or
sole user)

Phone Number:

2.B. TRAINING OF RSO or sole user (name of
trainer, date of certificate, other training
and experience)

3.A. ADDITIONAL USERS

3.B. TRAINING (name of trainer, date of
certificate)

4. DESCRIPTION OF PORTABLE X-RAY FLUORESCENCE DEVICES:

Manufacturer	Model	Serial Number	Source isotope	Source (mCi)	Acquisition date

5. TOTAL NUMBER OF DEVICES TO BE LICENSED FOR STORAGE AS INDICATED IN ITEM 1B:

6. PHYSICAL SECURITY: On an attached sheet, please indicate how the licensed devices will be kept secure (1) in the place of storage, (2) during transportation to and from sites, and (3) during use and sequestration at the site of use. For residential storage describe special precautions.

7. EMERGENCY PROCEDURES:

ITEM 8. CERTIFICATE
(This Item must be completed by Applicant)

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH THE MASSACHUSETTS REGULATIONS 105 CMR 120, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

(TYPE OR PRINT NAME OF CERTIFYING OFFICIAL) BY: _____
(SIGNATURE)

(TITLE OF CERTIFYING OFFICIAL) DATE: _____